



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246



D5809-5

Job Sheet 207539



*W Lee*  
MARCH 6/20

Part No: D5809-5

Job Qty: 12 pcs

Part Name: Stringer



Part Weight: 0 lbs

Job Created: 2/27/20

Due Date: 3/27/20

Type: Stock

Status: New

Job Tracking No:

Created By: Jennifer Renwick

Description:

Note: URF 2020-525 DWG D5809 Rev.A IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

POSITIVE RECALL

EFFECTIVE \_\_\_\_\_ AUTH \_\_\_\_\_

RELEASED \_\_\_\_\_ DATE \_\_\_\_\_

N/A

Priority: Medium

LIMITED RELEASE

## Bill of Materials

## Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Large Fab - Welded Assy-1	12 pcs	3/27/20		0.00	1.20	Large Fab - 1		
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		<i>And M.L.</i>
							Large Fab - 12		
120	QC 5	12 pcs	3/27/20		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

Container No: S261963



Part: D5809-5

Job No: 207539

Serial No/Batch: S261963

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/09/20

DAS

40

9-69

MAR 10 2020

Plex 3/5/20 7:18 AM Dart.lajeunesse.marie



130 Packaging 3-1 - Stock - B4B 12 pcs	3/27/20	0.00 0.00	Packaging 3 - 1 - B4B	
			Packaging 3 - 2 - B4B	
			Packaging 3 - 3 - B4B	
			Packaging 3 - 4 - B4B	
			Packaging 3 - 5 - B4B	
			Packaging 3 - 6 - B4B	
			Packaging 3 - 7 - B4B	
			Packaging 3 - 8 - B4B	
			Packaging 3 - 9 - B4B	
			Packaging 3 - 10 - B4B	
			Packaging 3 - 11 - B4B	
			Packaging 3 - 12 - B4B	
			Packaging 3 - 13 - B4B	
			Packaging 3 - 14 - B4B	
			Packaging 3 - 15 - B4B	
			Packaging 3 - 16 - B4B	
			Packaging 3 - 17 - B4B	
			Packaging 3 - 18 - B4B	
			Packaging 3 - 19 - B4B	
			Packaging 3 - 20 - B4B	
			Packaging 3 - 21 - B4B	
			Packaging 3 - 22 - B4B	
			Packaging 3 - 23 - B4B	
			Packaging 3 - 24 - B4B	
			Packaging 3 - 25 - B4B	
			Packaging 3 - 26 - B4B	
			Packaging 3 - 27 - B4B	
			Packaging 3 - 28 - B4B	
			Packaging 3 - 29 - B4B	
			Packaging 3 - 30 - B4B	
			Packaging 3 - 31 - B4B	
			Packaging 3 - 32 - B4B	
			Packaging 3 - 33 - B4B	
			Packaging 3 - 34 - B4B	
			Packaging 3 - 35 - B4B	
			Packaging 3 - 36 - B4B	
			Packaging 3 - 37 - B4B	
140 QC 21 - SA 12 pcs	3/27/20	0.00 0.00	QC 21 - SA - 21	
			QC 21 - SA - 70	
			QC 21 - SA - 53	

Part Op 110 - 1-Cut as per DWG. 2-Deburr.  
 Descriptions: 120 - QC5- Inspect part completeness to step on W/O  
 130 - Identify as per dwg & Stock Location: *WA004*  
 140 - QC21- Final Inspection - Work Order Release

## Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.500W.035	4130 Square Tube .500 X .500 X .035W	17.5200 ft (1.46 ea)	110-Large Fab - Welded Assy-1	<i>5260517</i>

## Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Large Fab - Welded Assy-1	M4130NTS0.500W.035	18	666	0

## Part Specifications

Specifications could not be found.



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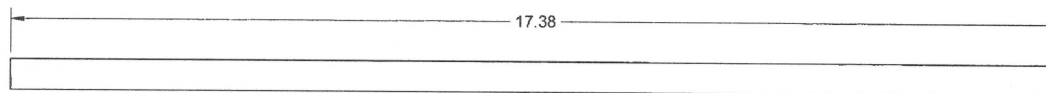
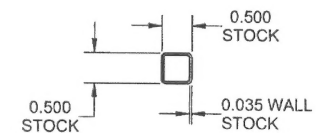
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**D5809-5 STRINGER**

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 207539 M15  
2003-05

UNDER REVIEW

URF 2020-525 20.02.20 (NO)

**NOTES:**

- 1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 1/2 X 0.035 WALL  
 PER MIL-T-6736 OR AMS 6371/6360/6361/6362/6373/6374  
 REF DART SPEC M4130N-TS0.500W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.30 lbs

**RELEASED**2020 FEB 19 *4*

APPROVED

DESIGN	ZF	<b>DART AEROSPACE LTD</b>	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO.	REV. A
MFG. APPR.	DD	<b>D5809</b>	SHEET 4 OF 5
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	<b>LONG LID ASSY</b>	NTS
DATE	20.01.21	<small>COPYRIGHT © 2020 BY DART AEROSPACE LTD          THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS          NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT          WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **POHB045883**



**Supplier:** FAC001-VU  
Factory Steel  
14020 Oakland Ave.  
Detroit, MI 48203 USA  
Phone: 313 883 6300  
Fax: 313 883 4883

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** POHB045883

**PO Date:** 2/18/20

**Due Date:** 2/28/20

**Purchase Order**

**Revision:**

**Revision Date:**

FEB 19 2020

**Issued By:**

Lavoie, Chantal  
Phone: 613-623-5200 Ext: 242  
Fax: 613-632-1053  
clavoie@dartaero.com

**Via:**

Ground

**Pynt Terms:**

Net 30

**Freight Terms:**

**Special Comments:**

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.500W.035			4130 Square Tube .500 X .500 X .035W : MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361/6362 6373/6374 receive ft	Firmed	-	2/28/20	600 ft	0 ft	600 ft	\$6.49/ft	\$3,894.00
Grand Total:													\$3,894.00

## Order Notes

### Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program.

A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 2/19/20 2:52 PM Dart.Lavoie.Chantal

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL:

M4130NTSO.500W.035

PO / BATCH NO.:

P04180Y5883  
5260577

DATE:

MAR 04 2020

MATERIAL CERT REC'D:

YES

QUANTITY RECEIVED:

611 FT

QUANTITY INSPECTED:

611 FT

QUANTITY REJECTED:

0

THICKNESS ORDERED:

.500X.500 W.035

THICKNESS RECEIVED:

.500X.500 W.035

SHEET SIZE ORDERED:

—

SHEET SIZE RECEIVED:

—

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	<u>MIL-T-6736</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	<u>HIT 25537</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.

RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY:

MAR 04 2020

DAS

SIGNED OFF BY:

DATE:

82

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DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

LIME1

M4130NTS0.500W.035

POH13045883



DESIGN DH	DRAWN BY DH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI4130N STEEL SQUARE TUBING PER ONE OF  
THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371,  
6360, 6361, 6362, 6373 OR 6374

PART NUMBER:

M4130N-TS | A.AAA | W | .TTT |

DAS  
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3-00

WHERE A.AAA = WIDTH IN INCHES  
TTT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

RELEASED  
05.03.25 [Signature]

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# PLYMOUTH TUBE CO.

1209 East 12th Street, Streator, Illinois 61364  
Phone: (815) 673-1515 Fax: (815) 672-7343

**TRUST YOUR SOURCE! ACCEPT NO SUBSTITUTIONS!**

## PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

179687 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

WORK ORDER 023914

HEAT NUMBER 25537

MELT SOURCE Timken Steel

PCS/HEAT

0

DAS

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9-89

Melt/Mfg. USA

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE
3999	SQ-N12035				

**PART DESCRIPTION** SHSQ0500035J200

\*\*\*\* Square OD \*\*\*\*

Side1: 0.5000 Max:0.5100 Min:0.4900

Side2: 0.5000 Max:0.5100 Min:0.4900

Wall: 0.0350 Max:0.0380 Min:0.0320

Length: 19.00/26.00

Spec: Mil-T 6736B Seamless Aircraft

Grade: 4130

Anneal: Cond N

DAS

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### CERTIFICATION REQUIREMENTS

FAR BAA (FAR 52.225-1 Buy America Act Supplies), DFARS 252.225-7001 By America Act & Bal. of Payments Program FAR TAA (FAR 52.225-6 Trade Agreements) (Paragraph 13.4.5) This material was tested and conforms to the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6736B, 6360P & 6371L. Material produced in accordance to ASTM A-519-17. Jominy results: J(5/16")=38 J(8/16")=31.

### Chemical Analysis

C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.30	.56	.008	.005	.29	.025	1.02	.20	.13	.000	.18	.009	.003	.009

### Physical Properties

Freq.	Severity	Grain Size
.000	.000	7

### Mechanical Properties

TEST	UNITS	#TESTS	HIGH	LOW	AVERAGE	STD-DEV
Tensile	Psi	6	121110	115340	118173	2536
Yield	Psi	6	115370	109700	112525	2436
Elongation	%	6	17	17	17	0
Rockwell C	Rc	6	22	22	22	0
<b>TEST</b>	<b>RESULT</b>					
Decarb/OD	Pass					
Total ID/OD decarb	Pass					

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Jamie DeRossi*  
Quality Assurance



**PLYMOUTH TUBE CO.**

1209 East 12th Street, Streator, Illinois 61362  
Phone: (815) 673-1515 Fax: (815) 672-7343

**TRUST YOUR SOURCE! ACCEPT NO SUBSTITUTIONS!**

**PRODUCT CERTIFICATION**

SALES ORDER - LINE / RLS  
**179687- 1 / 0**

**SHIP TO**

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

WORK ORDER 023914 PCS/HEAT 0  
HEAT NUMBER 25537  
MELT SOURCE Timken Steel - Melt/Mfg. USA

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE
3999	SQ-N12035			/	

PART DESCRIPTION SHSQ0500035J200

**Additional Specification(s)**

TEST	UNITS	#TESTS	HIGH	LOW	AVERAGE	STD-DEV
Brinell	Brinell	6	251	197	225	27

**This test report data is for the heat Chemistry Stated above.**

The material in this test report is:

- 1) Drawn in the USA
- 2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination.
- 3) NAFTA compliant.

DAS  
82  
9-89

End of Certification

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Janine DeRossi*  
**Quality Assurance**



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

Job: _____  Part No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	<b>DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Water Jet <input type="checkbox"/>            Supplier <input type="checkbox"/>            Quality <input type="checkbox"/> </div> </div>			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
<b>Root Cause</b>  <div style="display: flex;"> <div style="flex: 1;">           Operator <input type="checkbox"/>            Manufacturing Process <input type="checkbox"/>            Equip/Tooling <input type="checkbox"/>            Handling/Presservation <input type="checkbox"/>            Material <input type="checkbox"/>            Product Improvement <input type="checkbox"/>            Process Improvement <input type="checkbox"/>            Human Factors <input type="checkbox"/> </div> <div style="flex: 1;"> <input type="checkbox"/> Pressure/Forced  <input type="checkbox"/> Bending  <input type="checkbox"/> Crushing  <input type="checkbox"/> Cracks  <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist  <input type="checkbox"/> Marks/Chatter  <input type="checkbox"/> Mislabeled         </div> </div>		<b>FAULT CATEGORY</b>  <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Contamination  <input type="checkbox"/> Misaligned/off center  <input type="checkbox"/> BOM/Route  <input type="checkbox"/> Broken/Damage/Defect  <input type="checkbox"/> Incomplete/Unclear Instructions  <input type="checkbox"/> Drill Holes  <input type="checkbox"/> Fit/Function         </div> <div> <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Folio/Program  <input type="checkbox"/> Grain Direction  <input type="checkbox"/> Weld  <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Out of Sequence  <input type="checkbox"/> Off-set/Set-up         </div> <div> <input type="checkbox"/> Positioned Wrong  <input type="checkbox"/> Outside Tolerance  <input type="checkbox"/> Drawing  <input type="checkbox"/> Finish  <input type="checkbox"/> Part Lost/Missing  <input type="checkbox"/> Misread         </div> </div>			
Other/Details:					